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Title: Pleural fluid AFB culture predicts the development of residual pleural thickening in tuberculosis

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Body: Radiographic residual pleural thickening (RPT) develops up to half of patients with pleural tuberculosis. We sought to find whether results from AFB culture of pleural fluid predicted the development of RPT. Forty patients (25 males and 15 females; mean age 44 yrs) with tuberculosis pleurisy were included. These patients were diagnosed as pleural effusion on the basis of lymphodominant exudate and high ADA levels. Patients who were suspicious of empyema were excluded. RPT and microbiological and biochemical parameters of both pleural fluid and sputum were measured. Twenty patients showed positive pleural fluid AFB culture results while the other 20 patients were AFB culture negative. Four patients among 38 patients had positive PCR results for tuberculosis and all of them had positive pleural fluid AFB culture results. Thirty five patients (88%) were accompanied with pulmonary tuberculosis in chest radiography. Both sputum and bronchial washing AFB culture showed higher positive results in patients with positive pleural fluid AFB culture results (p=0.001) compared to the group with negative culture results. The patients with positive AFB culture in pleural fluid had greater RPT one year after initiation of antituberculous treatment compared with those with negative AFB culture. The mean RPT of pleural fluid AFB culture positive group and culture negative group were 1.5±22.7 and 0.63±2.75 (p=0.046), respectively. There were no differences in pleural adenosine deaminase levels, initial amount of pleural effusion, need for percutaneous drainage, and RPT at the termination period of treatment. This study demonstrated that AFB culture results predicted the development of RPT.